REMARKS

Claims 1-14 are pending in the present application. Claims 1, 5, 7, and 9 have been amended, and new claim 14 has been added. No new matter has been added to the new or amended claims. Reconsideration of the claims is respectfully requested in light of the remarks below.

A request for continued examination (RCE) has been filed herewith.

Section 112 and New Matter Rejections

The office action rejected claims 1, 5, and 9 under 35 U.S.C. 112, first paragraph. The language in claims 1, 5, and 9 that was objected to has been deleted.

The office action rejected claims 11-13 as containing new matter based on the recitation "writing the data tracks on the hard disk further comprises writing data tracks on the hard disk so that edges of the data tracks form a radius of curvature that is smaller than a radius of curvature formed by edges of the subsequent servo samples." The applicant respectfully submits that this language is not new matter. Claims 11-13 are adequately supported by the original disclosure of the present application.

Claim 1 has been amended to recite, "writing data tracks on the hard disk at varying distances from a center of the hard disk <u>so that edges of the data tracks form a radius of curvature that is different than a radius of curvature formed by edges of subsequent servo samples.</u>" Corresponding amendments have been made to independent claims 5 and 9. These amendments are also adequately supported by the original disclosure.

For example, Figure 12 of the present patent application shows that if customer data is placed in portion 1204, the edge of unused area 1201 that is adjacent to portion 1204 has a different (smaller) radius of curvature relative to the opposite edge of region 1201.

Further support can be found in the specification in paragraph 36 on page 12, which states that, "Figure 12 depicts a portion 1204 of unused area 1201 that can be utilized for customer data after *the format efficiency of a hard disk drive 1200 has been improved* based on a mathematical calculation of the spacing distance between the read sensor and the write element as a function of the radius of hard disk drive 1200 according to the present invention. ... *The*

increase in format efficiency is depicted as 509 in Figure 5B as a function of track length 506."
(emphasis added) Figure 5B of the present application shows that region 509 is part of customer
data track 506.

Thus, the present application states that the increase in format efficiency by
utilizing customer data in portion 1204 of unused area 1201 is depicted as region 509 in Figure
5B. In paragraph 29 on page 7, the present application states that "Figure 5B shows a portion
509 of unused area 401 that is utilized by the present invention that would otherwise be wasted
because of the conventional assumption of the uniformity of unused space 401." In paragraph 28
on page 7, the present application states that "Unused area 401 is a small area that is between the
end 508 of customer data track 506 and the beginning 507 of servo sampled 504."

Therefore, the original disclosure of the present application provides adequate
support for the concept that the unused area 1201 corresponds to unused areas 401, that portion
1204 corresponds to regions 509, and that unused areas 401 lie between customer data tracks and
the servo samples. Based on the specification and the Figures, the present application provides a
sufficient written description to support the concept that the edges of the data tracks (defined by
the boundary between 1201 and 1204) form radius of curvature that is different than (or smaller
than) a radius of curvature formed by the edges of subsequent servo samples (defined by the
opposite edge of region 1201).

Further support can be found in Figures 10-11 and in paragraph 36 (pages 8-9) of
the present application which disclose a specific example of how the areal space loss varies as a
function of the disk radius. In Figure 10, the areal space loss varies from 7.48 nanometers (nm)
at the inner radius of the hard disk, to 7.85 nm near the middle radius of the hard disk, to 7.65 nm
near the outer radius of the hard disk. Because the areal space loss varies as shown in Figure 10,
the radius of curvature formed by edges of the data tracks is different than the radius of curvature
formed by edges of subsequent servo samples, as shown in Figure 12.

For these reasons, the amended subject matter of claims 1, 5, and 9, as well as the
subject matter of claims 11-13, has been sufficiently disclosed in the specification and in the
drawings of the present application in such a way as to enable a person skilled in the art to make

and use the claimed invention. It is respectfully submitted that the rejections for this subject matter be withdrawn.

Rejections of the Claims Based on Prior Art

The office action rejected claims 1, 4, 5, 8, and 9 as being obvious over U.S. Patent 5,682,274 to Brown et al. in light of U.S. Patent 4,851,933 to Sugaya et al. The office action indicated that claims 11-13 contain allowable subject matter.

Independent claims 1, 5, and 9 of the present application have been amended to clarify the claimed invention. Claim 1, for example, has been amended to recite "writing data tracks on the hard disk at varying distances from a center of the hard disk <u>so that edges of the data tracks form a radius of curvature that is different than a radius of curvature formed by edges of subsequent servo samples</u>." Claims 5 and 9 contain corresponding amendments. It is respectfully submitted that this feature is not shown in or suggested by either of the cited prior art references.

CONCLUSION

Applicant believes of the pending claims are now in a condition for allowance. The Examiner can contact the applicant's representative at 650-242-8300.

Respectfully submitted,

/Steven J. Cahill/

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